

Notice of Allowability

Application No.

09/878,311

Examiner

John P. Sheehan

Applicant(s)

OKINAKA ET AL.

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to July 21, 2004.
2. ☒ The allowed claim(s) is/are 9-12, 16 and 17.
3. ☒ The drawings filed on 12 June 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Election/Restrictions

1. Claims 9 to 12 and 16 are directed to an allowable product. Pursuant to the procedures set forth in the Official Gazette notice dated March 26, 1996 (1184 O.G. 86), claim 15, directed to the process of making or using the patentable product, previously withdrawn from consideration as a result of a restriction requirement, is now subject to being rejoined. However, multi-dependent claim 15 does not refer to the claims from which it depends in the alternative and therefore is an improper multi-dependent claim. In view of this, as set forth below claim 15 has been canceled and has been rewritten as new dependent claim 17. New process claim 17 is hereby rejoined and fully examined for patentability under 37 CFR 1.104.

Since all claims previously withdrawn from consideration under 37 CFR 1.142 have been rejoined or canceled, the restriction requirement made in the Office action mailed on April 18, 2003 is hereby withdrawn.

Examiner's Amendment

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Arthur R. Crawford on August 12, 2004.

The application has been amended as follows:

I. Claim 15, has been cancelled and rewritten as new claim 17.

--17. A process for producing the spindle-shaped magnetic metal particles containing iron as a main component as defined in claim 9, which process comprises:

aging for a period of time a water suspension containing a ferrous-containing precipitate produced by reacting a mixed aqueous alkali solution comprising an aqueous alkali carbonate solution and an aqueous alkali hydroxide solution with an aqueous salt solution in a non-oxidative atmosphere;

conducting an oxidation of the aged water suspension containing a ferrous-containing precipitate by passing an oxygen-containing gas there through, the oxidation reaction being conducted such that 40 to 50 % of the total Fe^{2+} is oxidized, thereby producing spindle-shaped goethite seed crystal particles and;

adding to the water suspension containing the ferrous-containing precipitate, a Co compound in an amount of 0.5 to less than 6 atom %, calculated as Co, based on the total Fe, during the aging step thereof but prior to the elapse of half of the period of time of the aging step and before the oxidation reaction;

after the oxidation step adding an Al compound in an amount of from more than 10 to less than 20 atom %, calculated as Al, based on the total Fe, to the water

suspension containing both the ferrous-containing precipitate and the spindle-shaped goethite seed crystal particles;

oxidizing the resultant Al containing water suspension by passing an oxygen-containing gas there through thereby growing a goethite layer on the surface of each of the spindle-shaped goethite seed crystal particle;

treating the resultant spindle-shaped goethite seed crystal particle having a goethite layer on the surface with an anti-sintering agent containing a rare earth compound in an amount of 1.5 to 5 atom %, calculated as a rare earth element, based on the total Fe;

heat-treating the resultant anti-sintering agent treated goethite seed crystal particle having a goethite layer on the surface at a temperature of 650 to 850 °C in a non-reducing atmosphere thereby producing spindle-shaped hematite particles;

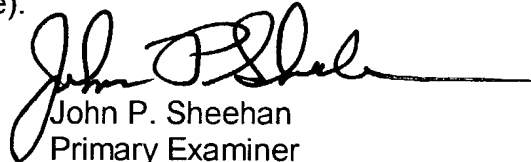
heat-treating the spindle-shaped hematite particles at a temperature of 400 to 700 °C in a reducing atmosphere.--

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (571) 272-1249. The examiner can normally be reached on T-F (6:45-4:30) Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John P. Sheehan
Primary Examiner
Art Unit 1742

jps